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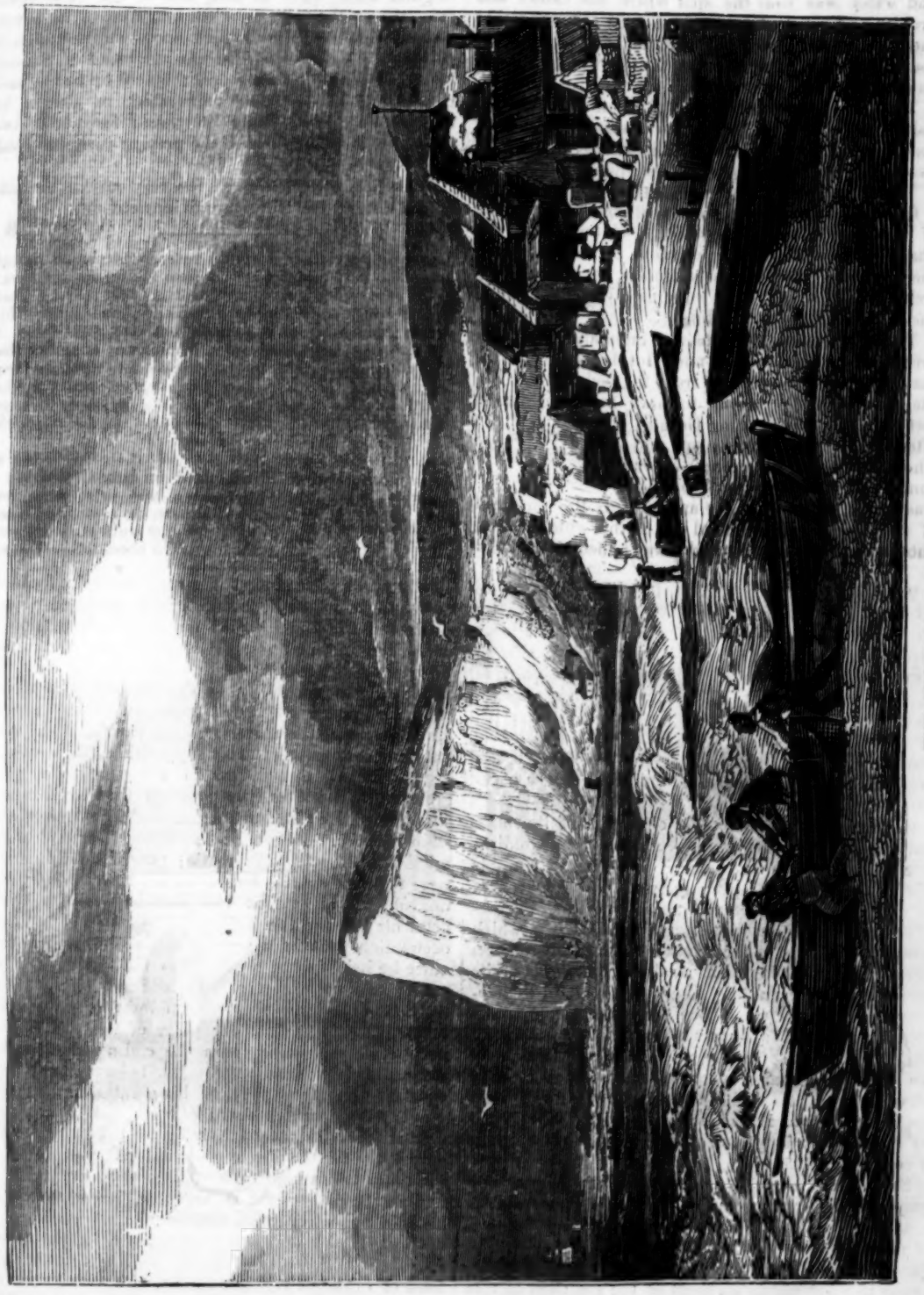


THE SHAKSPEARE CLIFF, DOVER.

THE SHAKSPEARE CLIFF AT DOVER.

"*TENDER for the Shakspeare tunnels!*" we exclaimed, as we took up a newspaper containing an advertisement for contracts for works from the "South-Eastern Railway Company." What! is it then intended "to excavate and complete a double tunnel through and along the Shakspeare Cliff at Dover?" that

> . . . . cliff, whose high and bending head
> Looks fearfully on the confined deep.

Surely the march of railroads and utilitarianism can no further go than this. The roar of a "first class train" against the roar of waves! This, indeed, is the "unkindest *cut* of all" against the "picturesque" tourist, in these days of locomotive engines, railways, tunnels and embankments. Carried away by recollection, and the sight of the view we are about to illustrate, we thought of the celebrated lines of our great dramatist in *King Lear*:

> . . . . . How fearful
> And dizzy 'tis to cast one's eyes so low!
> The crows and choughs that wing the midway air,
> Show scarce so gross as beetles.
> Half way down
> Hangs one that gathers samphire: dreadful trade!
> Methinks he seems no bigger than his head.
> The fishermen that walk upon the beach
> Appear like mice; and yon tall anchoring bark
> Diminished to her cock; her cock, a buoy,
> Almost too small for sight.
> The murmuring surge
> That on th' unnumbered idle pebbles chafes,
> Cannot be heard so high. I'll look no more,
> Lest my brain turn, and the deficient sight
> Topple down headlong.
> From the dread summit of this chalky bourn
> Look up a-hight;—the shrill-gorged lark so far
> Cannot be seen or heard.

But let us, as becomes sober topographers, turn to the matter-of-fact duties of our vocation.

We have taken occasion in former numbers* to refer to the interesting locality of Dover;—to its singularly-situated town, its extensive, and almost impregnable fortifications;—to the venerable church within its castle, respecting the superior antiquity of which to any other Christian place of worship within these islands, we then ventured upon expressing an opinion;—and, more recently, some other interesting remains in its neighbourhood;—nor have we yet exhausted the subject, but shall on some future occasion recur to it.

In the beautifully-romantic character of its castle and cliffs, Dover has been pronounced unequalled. One of the most impressive of its series of views is that of the lofty cliff, which, as we have seen, derives its name from Shakspeare's terribly-vivid and somewhat overcharged description. This bold steep, which stands out in front of the heights on the south-western side of Dover harbour, has no doubt lost some of its effect from the corroding hand of time and the elements. From the use of the term "bending head," indeed, it would appear that at the period when Shakspeare wrote *King Lear*, in 1605, the summit of the rock presented a very different appearance to what it does now. Within the last fifteen or sixteen years, we believe, it has been somewhat dilapidated by the fall of a large mass of the chalk of which it is composed.

Samphire†,—a wild marine plant which generally grows in rocky and inaccessible situations, and is considered valuable in consequence of its making one of the most delicious pickles that we possess,—is still gathered from it. An old writer says, "Samphire grows in great plenty on most of the sea-cliffs in this country: it is terrible to see how the people gather it, hanging by a rope several fathoms from the top of the impending rocks, as it were, in the air."

The name of Dover, our antiquaries agree, is British, and signifies a steep place. The castle stands on an eminence, 469 feet above the level of the sea, and some of the adjacent rocks rise to an altitude of 320 feet. The view from Shakspeare's Cliff, therefore, as may be imagined, is one of great beauty and extent. On a fine day, the coast of France is made out with great distinctness: the immediate locality is one of peculiar interest and grandeur; and the surface of the ocean, studded as it sometimes is with vast fleets, presents a series of ever-varying combinations.

However fine, as an object, the Shakspeare Cliff may be, there is nothing about it so remarkable as to excite the particular interest of the topographer and the tourist, in an island like this, which, on its western shores especially, is so famous for rock-scenery, were it not for the halo which the genius of Shakspeare has shed over it. This leads us to reflect on the rare and extraordinary powers of mind possessed by this great writer, and his unrivalled knowledge of human nature. He seems, indeed, to have opened, as it were, a window in the human breast, and to have penetrated, with intuitive power, the mysteries of "this little world of man." If we consider the circumstances of his life, and the mode of his education, our conceptions of the vastness of his intellect derive additional strength. The lives of few eminent men,—judging from the scanty materials that have come down to us,—appear to have less to distinguish them from those of "the common herd," than that of Shakspeare. His birth was comparatively humble, his father, who died in great indigence, having been first a glover, then a butcher, and lastly a wool-stapler, in the town of Stratford-on-Avon.

The poet's education at the grammar-school of his native town, where he is said to have acquired "*small Latin and less Greek*," was on the whole extremely defective; but he no doubt subsequently did much to remedy this. He married very young and unhappily; and according to the popular story, was compelled to leave Stratford early, in consequence of having engaged in a deer-stealing exploit with some dissolute companions. This supposition has, however, been doubted, though we do not think on good grounds, and it has been asserted that his removal from his native place was occasioned by estrangement from his wife. Before he left home the bent of his mind was essentially dramatic; two of his townsmen were eminent actors, and when his views in life were unavoidably altered, it was natural that he should bend his steps to the metropolis, and seek a theatrical occupation. It is generally believed that the first office he held in the theatre was that of *call-boy*, or prompter's attendant. But he did not long continue in that capacity, being soon admitted to perform minor parts in the popular plays of the period; and from a player he became in the end a writer for the stage. He seems, however, never to have risen to any eminence on the stage; and his greatest reward as a player did not exceed *six shillings and eight pence a week*. Dr. Drake well remarks that it is a most fortunate circumstance for the lovers of dramatic poetry that he did not attain a high rank in his profession; for if he had not been despised as an actor, he would, in all probability, never have aspired to distinction as an author. Shakspeare was warmly patronised by Queen Elizabeth and James the First: although particularly fond of dramatic representations, however, it does not appear that either of these sovereigns ever visited the public theatres; but gratified their taste by command-

* See *Sat. Mag.*, Vol. III., p. 154; Vol. V., p. 132; Vol. X. p. 112.
† See *Saturday Magazine* Vol. I., p. 5.

ing the comedians to perform at court. Our great dramatist appears to have accumulated considerable wealth for the period in which he lived. He purchased a small estate, and the most respectable mansion in his native place, Stratford, where he died, rather suddenly, on the 23rd of April, 1616, *the anniversary of his birth*, having exactly completed his fifty-second year on that day. He had no personal connexion with the theatre for about three years previously to his death, and his latter days appear to have been passed in peace and comfort,—a very rare instance in the history of genius. He left two daughters, who were born very early after his marriage, and to whom he left all his property. The family of our bard became extinct by the death of his second daughter in 1670; but some branches of the family still exist in Stratford, Tewkesbury, and Gloucester. Most of them are in great indigence.

Perhaps the strongest proof of his surpassing genius is to be found in the fact that many of his most celebrated expressions and passages have so intertwined themselves with our national language, as to have become as familiar as "household words." The quaint old FULLER remarked that,

Shakspeare was an eminent instance of that rule, *Poeta non fit sed nascitur* (One is not made, but born a poet). Indeed, his learning was but very little; so that as *Cornish diamonds* are not polished by any lapidary, but are pointed and smoothed even as they are taken out of the earth, so *nature* itself was all the art which was used upon him.

By the involuntary force of natural genius, Shakspeare transcends all other dramatists, even those of antiquity. His language is essentially dramatic;—the imagery it presents, the sentiments it delivers, its measure, its cadence, the choice and collocation of the words composing it, all converge to the same point, all contribute to the same end,—they are all instinct with action.

TO-MORROW.

How sweet to the heart is the thought of to-morrow,
When hope's fairy pictures bright colours display,
How sweet, when we can from futurity borrow,
A balm for the griefs that afflict us to-day!

When wearisome sickness has taught me to languish
For health, and the comforts it bears on its wing,
Let me hope, O how soon it would lessen my anguish!
That *to-morrow* will ease and serenity bring.

When travelling alone, quite forlorn, unbefriended,
Sweet hope that *to-morrow* my wandering will cease;
That at home then with care sympathetic attended,
I shall rest unmolested and slumber in peace.

Or when from the friends of my heart long divided,
The fond expectation with joy how replete;
That from far distant regions, by Providence guided,
To-morrow may see us most happily meet.

When six days of labour, each other succeeding,
With hurry and toil have my spirits oppressed,
What pleasure to think, as the last is receding,
To-morrow will be a sweet sabbath of rest.

And when the vain shadows of time are retiring,
When life is fast fleeting, and death is in sight,
The Christian believing, exulting, aspiring,
Beholds a *to-morrow* of endless delight!

But the Infidel then, he sees no *to-morrow!*
Yet he knows that his moments are hastening away:
Poor wretch! can he feel, without heart-rending sorrow,
That his joys and his life will expire with to-day!

God's benefits come not alone, but one gift is the pledge of another. The grant of a mite is the assignment of a talent. A drop of dew from heaven is a prognostic of a gracious shower; of a flood, which nothing can draw dry but ingratitude.—FARINDON.

OIL OF VITRIOL, (*Sulphuric Acid.*

OIL of vitriol is so called from its oily appearance, and its having been formerly prepared from green vitriol, better known by the name of copperas.

We have here an example of the defective state of chemical knowledge, when the names given to substances were more frequently descriptive of their external appearance, or implied some resemblance, real or imaginary, to other substances, than calculated to convey any correct idea of their character or properties.

No two liquids can be more dissimilar than *oil* and *vitriol*. The former, it is well known, is distinguished by its peculiarly soft and pleasant feel, by its inflammability, and by its not mixing with water. Vitriol, on the contrary, is so highly corrosive, that it destroys the skin; it is not inflammable, and it mixes with water in all proportions.

Vitriol is a term extensively employed by the old chemists. It was, probably, derived from the Latin word *vitrum*, which signifies *glass*; but whether it referred to the action of fire on certain substances, as in the process of making glass, which were hence called vitriols, or only to some supposed resemblance in the substances so designated to glass itself, it is difficult to determine.

Copperas, which, as we said, is the most common name for green vitriol, would seem to imply, if its name were our only guide in the matter, that *copper* entered into its composition. It is not so, however, for copperas is a combination of oil of vitriol and *iron*, not copper.

The modern and more appropriate name for oil of vitriol, is *sulphuric acid*; the former term denoting what is called by chemists, the *base* of a compound; the latter, the *class* of substances to which it belongs. Thus, in the present instance, we learn that oil of vitriol has *sulphur* for its base, and that its character is that of an *acid*. By a further classification, acids are divided into mineral, vegetable, and animal acids; thereby indicating the sources whence their bases are obtained. As sulphur is a product of the mineral kingdom *, sulphuric acid is consequently a *mineral acid*.

Sulphuric acid is composed of sulphur, oxygen, and water; an announcement, which to those who have never thought on such subjects, will, we fear, convey but very little satisfactory information. We will endeavour to make it intelligible.

When sulphur, as a common match, for instance, is inflamed, a pungent unpleasant odour is diffused, which occasions coughing, and a suffocating sensation. In the process, simple as it is, certain changes occur, which are deserving of special notice. It may be remarked that the sulphur has disappeared. The common expressions are, that it has been *burned* or *consumed*. There is, however, abundant proof, that although no longer visible to the eye, nor palpable to the touch, the sulphur is not destroyed. It evidently exists in some new form, and possesses some new properties; at the same time that it affords an instance of the facility with which solid substances are, by the action of heat, converted into gases.

But, it may be demanded, what is the cause of the disagreeable odour which accompanies the combustion of sulphur? It is occasioned by the union of oxygen, which constitutes one-fifth portion of atmospheric air, with the vapour of sulphur; the compound gaseous body resulting from that combination, being sulphurous acid gas, and the production of which, is the first step in obtaining sulphuric acid.

* For a description of the nature and preparation o sulphur, see *Saturday Magazine*, Vol. IX., p. 111.

Suppose we take a saucer with a little clean water in it, a large-sized tumbler, and about a dozen sulphur-matches. Having tied the matches slightly together, they must be cut sufficiently short, that when standing in the saucer, their dipped ends may project about an inch above the water. If two or more of the matches be now ignited, and the whole covered instantly with the tumbler, the edges of which must dip into the water, we shall find, that the combustion within will not long continue. As soon as the oxygen present in the tumbler is exhausted, the matches will be extinguished. After waiting about ten or fifteen minutes for the vapour within the tumbler to subside, the latter must be removed, and the impure air effectually expelled, which may be done by blowing into it with bellows, or by wiping it thoroughly with a cloth. Now let two or three more matches be ignited, the tumbler inverted in the saucer as before,—then again removed,—and the operation repeated about ten times, or until thirty to forty matches have been successively inflamed.

Our next business will be to examine the water in the saucer. The most usual course is first to *smell* to it, but as nothing remarkable in its odour presents itself, suppose we *taste* it. Here we shall find that a change has been effected, the water having acquired a flavour decidedly *sour*. But how has that happened? There is nothing in the flavour of sulphur that tastes like acidity. Whence, then, has this peculiarity originated?

Already have we shown that oxygen has an affinity for the vapour of sulphur, that, during the process of combustion, they unite in certain exact and well-known proportions, and that such union is productive of a compound body, namely, sulphurous acid gas, whose properties are very different from those possessed by either element (oxygen or sulphur) in its simple state. But the affinity of oxygen for sulphur continues in force *after* the combination just mentioned has taken place; so that it may be said that the tendency of oxygen to unite with sulphurous acid is as energetic as it is to unite with the vapour of sulphur. In order, however, to effect the union of oxygen and sulphurous acid, it is necessary that *water* should be present. A mixture of oxygen and sulphurous acid gases, so long as they are perfectly dry, may be preserved for any length of time; but the moment a few drops of water are introduced, chemical action ensues, and *sulphuric acid* is formed. *Water*, therefore, is as essential to the combination of oxygen and sulphurous acid, as *fire*, or rather *heat*, is to the union of oxygen and vapour of sulphur.

We may now explain what happens when sulphur is inflamed in a vessel standing over water in the way we have mentioned. A part of the oxygen unites with the vapour of sulphur, so long as inflammation continues, and sulphurous acid is formed; but as the vapour of water is present, the union of another portion of oxygen with the newly-generated sulphurous acid is going on at the same time, thereby producing sulphuric acid, and these two processes continue until the whole of the oxygen is expended. The sulphuric acid falls into, and is dissolved by, the water, imparting to it the acidity which has been noticed above.

It will, of course, be understood, that the quantity of acid formed under these circumstances is very small. If properly managed, however, the experiment will be perfectly satisfactory.

Sulphuric acid constitutes an important article of commerce. It is very extensively used in various branches of the arts and manufactures. The old method of preparing it, by the distillation of green vitriol, is still pursued at Nordhausen, in Saxony. The modern process is that adopted in this country, and consists in burning together a mixture of about nine parts of sulphur, and one of saltpetre, (*nitrate of potash*,) the fumes of which are made to pass into a large chamber lined throughout with lead, the dimensions of which, in some cases, is seventy feet long, twelve high, and sixteen wide. The bottom of the chamber is covered, to a depth of several inches, with water, or a very weak solution of acid. Atmospheric air has access to the chamber. When the water is sufficiently impregnated with acid, it is drawn off. By repeated boiling, the greater portion of the water is evaporated, and then the acid is of the required strength, or properly *concentrated*.

In its pure state sulphuric acid is a solid, white and shining, and resembling, in some respects, filaments of silk. In this form it is known only to chemists.

The sulphuric acid of commerce is a colourless liquid, of a thick consistence. It is much heavier, bulk for bulk, than water. A gallon of water weighs ten pounds, but the same quantity of strong sulphuric acid will weigh eighteen pounds.

The affinity of sulphuric acid for water is so great, that if suffered to remain exposed to the atmosphere, in a shallow vessel, it will, in twenty-four hours, absorb one-third of its own weight of moisture from the air.

When sulphuric acid and water are mixed in certain proportions, the heat produced is nearly one hundred degrees greater than that of boiling water; and this extraordinary elevation of temperature is attended by another phenomenon equally remarkable, namely, diminution of bulk; so that a gallon of concentrated acid, and a gallon of water being mixed, the space they occupy will not be equal to that of two gallons.

The sulphuric acid which is sold by retail in the shops, is diluted with seven times its weight of water. In this state it is highly corrosive, and requires to be handled with caution. As it is sometimes employed in cleaning brass and copper utensils, servants and others cannot be too careful in putting it beyond the reach of children; and as a means of preventing accidents to adults, it should always be labelled.

There are instances in which sulphuric acid has been taken or administered internally, sometimes by accident, and at others, with a criminal design. In such cases, death is almost inevitable; the acid destroying the membranes which line the throat and stomach, and causing the most dreadful agony. By the prompt use of large doses of magnesia, or powdered chalk and water, and then exciting vomiting, by irritating the fauces with a feather, relief may, at least, be hoped for, and has been succeeded by complete recovery.

This acid, although the most powerful with which we are acquainted, *is not poisonous*. When properly diluted, it is employed in medicine, producing, in certain diseases, the most salutary effects.

R. R

A STUDIOUS LIFE NOT PREJUDICIAL TO HEALTH.—It is a great mistake to imagine that the pursuit of learning is injurious to health. We see that studious men live as long as persons of any other profession. History will confirm the truth of this observation. In fact, the regular, calm, and uniform life of a student, conduces to health, and removes many inconveniences and dangers which might otherwise assault it, provided that the superfluous heat of the constitution be assuaged by moderate exercise, and the habit of the body be not overcharged with a quantity of aliment incompatible with a sedentary life.—HUET.

AMUSEMENTS OF SCIENCE.

No. I. Arithmetic.

Nothing tends more to increase the powers of the mind than the constant exercise of its faculties; and when this can be effected by combining amusement with instruction, the young are frequently led to the knowledge of facts, with which they might otherwise have never become acquainted. Many curious illustrations of scientific matters have resulted from the labours of the mathematician and the natural philosopher, which at first sight might appear to be almost paradoxical, if it were not known that they are founded on some well-known property, exhibited under peculiar circumstances. These Amusements of Science we intend to illustrate, in a series of papers, arranged under the respective heads of the subjects to which they belong.

The properties of numbers have always been the object of the research of the mathematician; and the knowledge of some of these properties is frequently of use, in shortening the labours of an arithmetical question. For instance, it is well known that in multiplying by 10, we need only add a cipher to the end of the sum to be multiplied; by 100, two ciphers; &c. To multiply by 5, add a cipher, and divide the amount by 2, because five times any sum is the half of 10 times the same amount;—thus,

2)2,689,530	produces the same result as	268,953
1,344,765		5
		1,344,765

In multiplying by 25, add two ciphers, as in 100, and divide by 4, because 25 is the fourth part of 100; —thus,

4)36,849,200	Produces the same result, in fewer figures, as if 368,492 were multiplied by 25;—thus,	368492
9,212,300		25
		1842460
		736984
		9,212,300

Some numbers, such as 9 and 3 in particular, have very curious properties. If a figure, with a number of ciphers attached to it, is divided by 9, the quotient will be composed of one figure only, namely, the first figure of the dividend, as—

9)600,000	9)40,000
66,666–6	4,444–4

If any sum of figures can be divided by 9, as 9)549 / 61 the amount of these figures, when added together, can be divided by 9;—thus, 5, 4, 9, added together, make 18, which is divisible by 9. If the sum 549 is multiplied by any figure, the product can also be divided by 9, as

549	And the amount of the figures of the product can also be divided by 9;—thus,	3
6		2
9)3294		9
366		4
		2)18
		9

To multiply by 9, add a cipher, and deduct the sum that is to be multiplied;—thus,

43,260	Produces the same result as	4,326
4,326		9
38,934		38,934

In the same manner, to multiply by 99, add two ciphers; by 999, three ciphers, &c. These properties of the figure 9 will enable the young arithmetician to perform an amusing trick, quite sufficient to excite the wonder of the uninitiated.

Any series of numbers that can be divided by 9, as 365,472, 821,754, &c., being shown, a person may be requested to multiply secretly either of these series by any figure he pleases, to strike out one number of the quotient, and to let you know the figures which remain, in any order he likes; you will then, by the assistance of the knowledge of the above properties of 9, easily declare the number which has been erased. Thus, suppose 365472 are the numbers chosen, and the multiplier is 6; if, then, 8 is struck out, the numbers returned to you will be

365472		2
6		1
2192832		9
		2
		3
		2
		19

The amount of these numbers is 19; but 19, divided by 9, leaves a remainder of 1: you therefore want 8 to complete another 9 8, then, is the number erased.

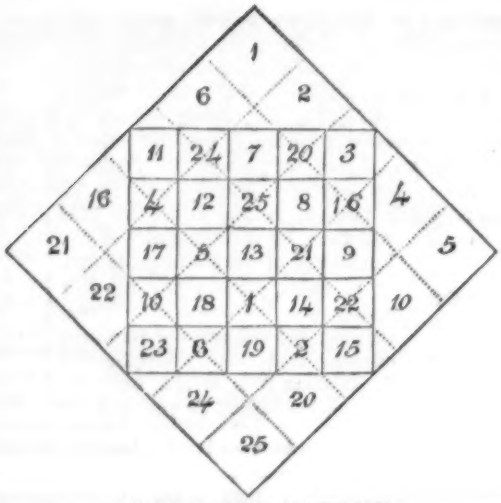
A simple method of proving the correctness of a sum in multiplication is practised by the use of the 9.

5	Suppose 5623 is multiplied by 327; to ascertain its correctness, proceed thus,—add together first 5, 6, 2, 3, and ascertain how many nines there are in the amount, and note down the remainder; this will be 7: then add 3, 2, 7, together, and do the same; the remainder here will be 3: multiply these two figures together, divide by 9, and note the remainder; then add the numbers of the quotient together, and divide by 9. If the sum has been correctly done, the remainder will be the same as the last, namely, 3;—thus,	5623
6		327
2		39361
3		11246
9)16		16869
1-7		1838721
3		
2		1
7		8
9)12		3
1-3		8
7		7
3		2
9)21		1
2-3		9)30
		3-3

Every odd number, multiplied by an odd number, produces an odd number; every odd number, multiplied by an even number, produces an even number; and every even number, multiplied by an even number, produces also an even number. Also, an even number added to an even number, or an odd number added to an odd number, produces an even number; while an odd and even number added together produce an odd number.

If any one holds an odd number of counters in one hand, and an even number in the other, it is not difficult to discover in which hand the odd or even number is;—thus, desire the party to multiply the number in the right hand by an even number, and that in the left hand by an odd number, then to add the two sums together, and tell you the last figure of the product; if it is even, the odd number will be in the right hand, and if odd, in the left hand.

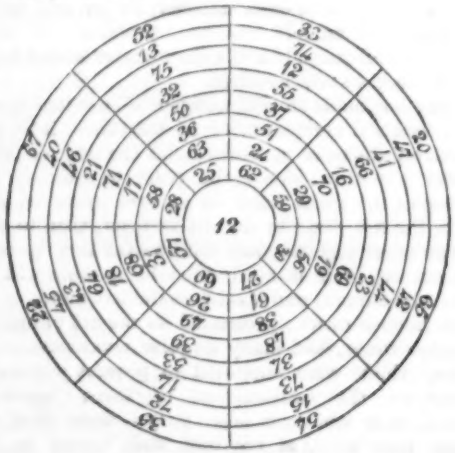
The impostors who pretended to the art of magic, in former times, had many singular arrangements of figures, which were supposed to possess wonderful properties; the construction of them, however, showed, that whatever false power these men assumed, they were, at any rate, well versed in the science of numbers. These arrangements of numbers went by the name of magic squares, magic circles, &c. The following is an example of a magic square, in which it will be perceived that the figures are so arranged, that if any of the rows are added together downwards, sideways, or from corner to corner, the amount will be the same, namely, 65.



A MAGIC SQUARE OF ODD NUMBERS.

On a piece of card-board or paper, draw a square with a pencil, having one of its angles uppermost; divide this square into twenty-five cells, and write in the numbers from 1 to 25, in the order shown in the engraving; then draw, with ink, the inner square, so that its angles shall touch the middle of each of the four sides of the outer square; divide this into twenty-five cells, also, with ink: it will be then seen that thirteen of the numbers of the outer square fall within thirteen of the cells of the inner square; write these numbers in with ink, and transfer the twelve unappropriated numbers that still remain in pencil in the outer square to the unfilled cells in the smaller square, transferring those which are at the upper angle to the three spaces below, those from the lowermost to the three above, those from the right to the left, and *vice-versâ*. Rubbing out, then, all the pencil-lines, your magic square is complete. Any square of odd numbers may be constructed on same principle as this.

THE next engraving is a magic circle of circles; in this, the figures in each circle, added to the 12 in the centre, will amount to 360: and the figures in each of the rows which radiate from the centre, added to 12, will produce the same result.



THE MAGIC CIRCLE.

We shall notice a few more properties of numbers, which, perhaps, may be interesting, if not useful, to the young arithmetician.

Every square number necessarily finishes with one of these figures, 1, 4, 5, 6, 9, or with an even number of ciphers, preceded by one of these figures.

Every square number is divisible by 3, or will become so by taking away 1; in the same manner, by 4 or by 5, by taking away or adding 1.

Every square number that is odd, can be divided by 4, after deducting 1.

If two square numbers bear such a relation to each other, that when their two squares are added together, the result is a square number, then if the two original numbers are multiplied into each other, the product is divisible by 6. If two numbers are multiplied together, whose difference is 2, the product, by the addition of 1, is the square of the intermediate number, in this instance the intermediate number is 5, and its square is 25.

	4
	6
	24
	1
	25

AUSTRALIAN SCENERY.

THE district of Illawarra, or, as it is frequently called, the Five Islands, in latitude between 34 and 35 degrees south, on the east coast of New Holland, is about 40 miles to the southward of Sydney, and possessing many of the characteristics of a tropical country: its magnificent scenery is an object of great interest in the colony itself.

The following is a brief notice of an excursion into that district:—

Having sent forward two "*Natives*" on horseback, and a man with a pack-horse, we commenced our little tour into Illawarra. Our first day's journey, from the district of Appin towards the coast, presented nothing remarkable; nor did we see any fine specimens of plants, excepting the Warratah, Blandfordia, and some others, common about Sydney.

The night closed in, and we encamped, or rather bivouacked, sheltered from the wind and dew by a few green boughs, so disposed as to form a rude tent, and with a sparkling fire at our feet,—chanting

> Under the greenwood tree,
> Whose loves to lie with me, &c.,

were soon sound asleep.

Bright Chanticleer had no sooner given due notice of the approach of day from some settler's farm, than we were up and stirring;—horses sought for, and brought in, and tea-kettle and frying-pan in requisition. A refreshing dip in the neighbouring stream sharpened our appetite for the savoury things in preparation; and, after doing full justice to an excellent breakfast, by seven o'clock we were once more on the line of march. A ride of nine or ten miles over a sterile district, brought us gradually upon an elevated table-land. Travelling along this some miles, we came to a gentle eminence, terminating the table-land, and forming the summit of the Illawarra mountain. The alteration which here takes place in the soil, vegetation, and landscape, is most remarkable. So instantaneous is the change, as to resemble rather one of those transitions we read of in fairy tales, than the ordinary course of nature. A single step, and you pass at once from a dreary waste,—from the stunted arid vegetation of the sea-coast barrens of Australia, to a region clothed in the richest luxuriance and verdure of the tropics.

Everything combined to make the change the more conspicuous and delightful: a soft breeze cooled the air, which had been somewhat sultry and oppressive; and, at the same time, wafted to our ears the murmuring sound of breakers, denoting that, although hidden from sight by dense masses of vegetation, the sea was not distant.

Deviating a few paces from the path, we found ourselves at once upon the very verge of a rocky precipice, from whence there burst upon us one of

the most magnificent spectacles that can be conceived, The mountain, which is upwards of 2000 feet in height, at this spot, approaches within less than a mile of the beach. The glorious ocean was literally close beneath us, and spreading far and wide in boundless distance. The point on which we were standing is the northern extremity of a mountain-crescent; the southern extreme being about 30 miles distant, between Kiama and Shoal Haven. The country between this sheltering crest of mountains and the sea is of great beauty and fertility, and, in many places, quite tropical in its character, resembling, it is said, the interior of Ceylon. After gazing over this extended and beautiful region, and again searching the vast expanse of waters, to catch the faint outline of a passing sail, or trace the rapid flight of some ocean-bird, our attention reverted to objects in the more immediate neighbourhood. And if the distant prospect excited admiration, what language can depict the grandeur and novel magnificence which surrounded us. The eucalyptus had almost entirely disappeared, and in its place enormous trees reared aloft their gigantic trunks, and spread forth branches covered with the richest foliage. Here were growing intermingled nearly all the varieties of tree, shrub, or climber, remarkable for beauty, that I had yet seen in the colony, besides many that were entirely new to me. The myrtle, no longer a shrub, reared its massive trunk to more than one hundred feet, before it expanded into a canopy of leaves. The lilly pilly, pittis forensis, sassafras, Illawarra-plum, and others too numerous to mention, each assuming a proportionate magnificence of height, in turn struck us with astonishment. After proceeding for hundreds of yards under a vaulted roof of foliage, so dense as to be impervious to the sun's rays, and seeming, as it were, the majestic dome of a stupendous temple,—a narrow opening would present itself, displaying a prospect of the ocean, or deep vistas through the forest, so disposed as to give full effect, in the distance, to some lofty palm, with its graceful slender stem. Climbing plants, and dendrobiums, too, were here in all their beauty. Where a dead trunk occasionally intervened, it presented no vestige of decay. Immense clusters of the stag's-horn fern, and of the still more graceful asplenium, together with numberless gigantic climbers, all contributed to conceal or adorn the ruin. Nor were these beautiful vines and parasites confined to decayed trees alone. Frequently converting the stems of the palms, and other trees, into verdant columns, and twining amidst their topmost branches, they flung themselves in wild luxuriance to neighbouring trees, forming a succession of festoons, or rather vast arches of foliage, for hundreds of yards together. Nor let me omit the delightful and varied fragrance, which seemed to pervade every portion of this magnificent way.

At length we began to descend the mountain—and such a descent! Sometimes down an almost precipitous inclination, into depths of shadow occasioned by the gorgeous canopy of foliage, of which so feeble a description has been attempted, at others winding under lofty precipices, adorned from top to bottom with fantastic and ever-varying wreaths of verdure. Now overshadowed by groups of palm or of the *tree-fern*, now under the shade of the most gigantic specimens of the gum and turpentine tree. Numerous birds of brilliant plumage were flitting from branch to branch, and ever and anon, amid the sharp shrill whistle of the parrot, arose the deep melancholy tones of the wonga-wonga:—

> And, from afar, the bell-bird's plaintive chime,
> A note peculiar to Australia's clime.

The Bangalo-palm now first made its appearance. This beautiful variety does not attain nearly the size of the cabbage-palm, but is far more graceful. Of the latter, we noticed some trees, from 100 to 130 feet high. There were whole acres of the Port Macquarrie *Hibiscus*, so justly prized as an addition to our shrubberies; and some parts of the road were thickly strewed with the Illawarra-plum, and other showy berries, which had fallen to the ground. A species of sterculia, of lofty growth, at this season out of leaf, was covered with splendid masses of scarlet blossoms, at the height of from thirty to forty feet above the ground.

Our attention was next forcibly arrested by a group of lofty trees, with massive stems, which rose to a great height, without a branch, and then spread forth their ample shade over a wide space. These, upon a nearer approach, we found to be the banyan or fig-tree.

Not far from this magnificent clump of forest-timber, we came upon a secluded scene of exquisite beauty. Picture to yourself a rich grassy glade, almost free from wood, and of several acres in extent,—watered by a little murmuring rivulet, at once cool and clear,—now gliding over moss-covered rocks, now settling into still transparent pools; palms, acacia, casuarina, and other graceful plants, fringing the banks, and forming a varied foreground,—whilst on three sides, the open space was shut in by the steep acclivities of the mountain, clothed in dense and shadowy vegetation

> . . . . . The champaign head
> Of a steep wilderness, whose hairy sides
> With thicket overgrown, grotesque and wild,
> Access denied; and overhead upgrew,
> Insuperable height of loftiest shade—
> Cedar, and vines, and fig, and branching palm,
> A sylvan scene; and, as the ranks ascend,
> Shade above shade, a woody theatre
> Of stateliest view.

Above this, in the opening of the stream, a bold projecting precipice of gray rock, with a diadem of rich verdure, reared its rugged form to the height of 1500 or 2000 feet, the summit being partially enveloped in clouds. On the sunny side of the meadow, a flock of forest-kangaroos, six or seven in number, were basking and enjoying themselves. Disturbed by the noise of our approach, they bounded swiftly away, and were soon concealed from sight amidst the adjoining thickets.

In this sequestered and beautiful spot we took our lunch. After which, having travelled a few miles through a somewhat uninteresting forest, we halted for the night near the sea-shore, on an open space affording good grass for our horses, and sheltered, by surrounding thickets, from the cold night-wind. Our encampment was not more than 100 yards from the surf. "*Johnny*," a native, of the Cow Pasture tribe, who accompanied us, had never until now been so near the sea. It was quite beyond his comprehension. No persuasion could induce him to approach the breakers. "*What*,"—exclaimed he, gazing over the expanse—"*all that water; where are the trees?—there is no end to it.*" A vessel under sail, in the distance, he said was "*a cloud moving on the water*," or "*may be the wind itself.*" The night passed away in undisturbed repose. After several days spent happily amidst similar scenes, and having made a good collection of plants, seeds, and bird-skins, we turned our horses' heads once more towards home, and bade farewell to Illawarra.

Paramatta, New South Wales, M.
August, 1836.

NOTES ON FOREST TREES No. XI.

THE GREAT MAPLE, OR SYCAMORE,
(*Acer pseudoplatanus.*)

THE usual name by which this tree is known in Great Britain, particularly in Scotland, is that of the Plane, although it belongs to a quite different family of plants; on this account, it has received the scientific name of *pseudoplatanus* (false plane). The name Sycamore was originally applied to a species of fig, *Ficus sycamorus*, so that the Great Maple is clearly the most proper name for the tree in question.

The Great Maple is much larger and grander in its form than the smaller or Common Maple, but it wants its elegance, and is coarse in proportion to its bulk. "It forms, however," says Gilpin, "an impenetrable shade, and often receives well-contrasted masses of light. Its bark has not the furrowed roughness of the oak, but it has a species of roughness very picturesque. In itself it is smooth, but it peels off in large flakes, like that of the Planes, (to which in other respects it bears a resemblance,) leaving patches of different hues, seams, and cracks, which are often picturesque."

There are many species of the Maple; one in particular, the Sugar Maple*, is of great service to mankind, from the quantity of sugar which can be procured from its sap. An experiment was made in Scotland, in 1816, upon the sap of the Great Maple; the result was, that three bottles and a half of the sap were collected, weighing in all three pounds four ounces; this yielded 214 grains of a substance resembling impure moist sugar.

Evelyn says but little respecting the Maple, which he calls the Sycamore, and that not in its praise.—"The Sycamore is much more in reputation for its shade than it deserves; for the leaves, which fall early, (like those of the ash,) turn to a mucilage, and putrefy with the first moisture of the season, so as they contaminate and mar our walks. and are, therefore, by my consent, to be banished from all curious gardens and avenues."

The size attained by this tree in Great Britain is considerable; at Nisbet, in Berwickshire, is a specimen about seventy feet in height, and between twelve and thirteen in girth. At Dawick, another, fifteen feet in girth. The largest recorded is at Bishopton, in Renfrewshire; it is a fine spreading tree, sixty feet in height, and twenty feet in girth near the ground. A very large specimen still exists at Calder House, near Edinburgh. This tree is known to have been planted before the Reformation, and is supposed to

LEAVES AND BLOSSOM OF THE GREAT MAPLE.

be not less than 300 years old, yet it has the appearance of being perfectly sound. It is the tree to which, long ago, the *iron jugs* (a species of pillory,) were fastened. The tree came gradually to grow over them, and they have now been completely enclosed in its trunk for a considerable time. At the place where they are enclosed there is a great protuberance, on the south side of the tree, at the height of between four and five feet.

The Maple is raised by seed

* See *Saturday Magazine* Vol, VIII., p. 132.

CURIOUS METHOD OF SHOWING GRATITUDE.

My guide said that the wood abounded in wolves, and desired me to observe the stump of a tree recently felled, telling me that a young man, assailed by three of those ferocious animals, had taken refuge in its branches, and had afterwards cut it down, as a memorial of his escape, and in testimony of his gratitude. I thought this an odd mode of returning thanks, and tacitly determined never to endanger my safety for an inhabitant of Meleahada. Different nations have certainly different modes of expressing their sense of services conferred: a Portuguese fells a tree for the same reason that an Englishman would effectually protect it.—*Portugal and Gallicia.*

ARGUMENT.—Let the end of thy argument be rather to discover a doubtful truth, than a commanding wit; in the one thou shalt gain substance, in the other froth; that flint strikes the steel in vain that propagates no sparkles; covet to be truth's champion, at least to hold her colours: he that pleads against the truth, takes pains to be overthrown; or, if a conqueror, gains but vain-glory by the conquest.—QUARLES.

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